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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,140	01/28/2004	Masao Miyamura	248212US2	9714

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

BAND, MICHAEL A

ART UNIT	PAPER NUMBER
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1709

NOTIFICATION DATE	DELIVERY MODE
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05/02/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/765,140

Applicant(s)

MIYAMURA, MASAO

Examiner

Michael Band

Art Unit

1709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/28/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-8 in the reply filed on April 9, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Non-elected claims 9-12 are hereby withdrawn.

Drawings

3. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Rauschnabel et al (WO 99/63129), citations below from English language equivalent (US Patent No. 6,613,393).

With respect to claims 1 and 5, Rauschnabel '393 discloses a sputtering method with a vacuum chamber (col. 5, lines 15-20), a cylindrical substrate holder (figure 4, turntable 60) (It is noted that an error in figure 4 lists the turntable as part 50. Col 7, line 16 states that the turntable should be part 60) with the substrate mounted on the outer periphery (figure 4, part 41). The vacuum chamber is divided into four compartments, with two (figure 4, parts 47 and 48; col. 7, lines 12-15) having gas supplied to them (i.e. sputter deposition compartments). Rauschnabel '393 depicts figure 5 as a section along line V-V through the apparatus according to figure 4. Figure 5 further illustrates two sets of cathodes and targets (parts 52 and 53) in separate compartments separated by a partition (part 54). The partition can also be seen in figure 5 separating the middle of the turntable (part 60). Figure 5 also shows two sets of gas inlets (parts 44 and 51) that can be seen entering each of the separate compartments to generate separate plasmas (col. 7, lines 15-23).

With respect to claims 2 and 6, Rauschnabel '393 further discloses that DC magnetron sputtering, pulsed magnetron sputtering, or double-cathode sputtering can be used (col. 3, lines 33-41).

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With respect to claims 3 and 7, Rauschnabel '393 further discloses a cathode shutter to more accurately adjust the composition of the layer component that is deposited by sputtering (col. 5, lines 2-4).

With respect to claims 4 and 8, Rauschnabel '393 further discloses a plasma generator using microwave discharge (col. 2, lines 43-48). Rauschnabel '393 also discloses that in addition to microwave plasma, bias voltages can also either be used in conjunction with the microwave plasma or solely by itself (col. 3, lines 11-16). Rauschnabel '393 further states that "high frequency bias voltages have proven particularly effective in this context (col. 3, lines 16-18).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent No. 6,635,155; US Patent No. 6,863,785; US Patent No. 6,210,542; US Patent No. 5,571,595; US Patent No. 6,613,393; US Patent No. 6,254,747; US Patent No. 5,674,366; US Patent No. 5,225,393; US Patent No. 5,106,821 as being related to the state of the art.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Band whose telephone number is (571) 272-9815. The examiner can normally be reached on Mon-Fri, 8am-4pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAB



ALEXA D. NECKEL
SUPERVISORY PATENT EXAMINER